at its centre; upon the passage of an electric current through this a homogeneous magnetic field is produced the greatest density of which lies at the bisection of the axes of the solenoid. Here the lines of force are nearly parallel to the axis. Bits of iron brought to this spot are at once magnetized to saturation. When an iron rod is brought within the influence of the magnet, it as well as the foreign body within the eye becomes magnetic; the degree of magnetization is proportionate to the size of the rod, so that the effect can be graduated by varying the size of the latter, and too rapid issue of the foreign body may be avoided. By the employment of urrents of varying intensities, the operator has complete control of the attractive force he wishes to use.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF
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The Pathogenesis of Pernicious Anemia.—Grafe and Röhmer (*Deut. Archiv f. klin. Med.*, 1909, xcvi, 397) endeavored to isolate a hemolytic substance from the stools of patients suffering with ulceration of the intestines. They studied the stools from this point of view from 106 cases, all but 11 of which showed some gastro-intestinal lesion. A hemolytic substance was most constantly found in the stools of patients suffering with tuberculous enteritis (10 out of 11 cases), while normal cases gave practically negative results. In catarrhal jaundice, in liver diseases, and in cholecystitis positive findings were obtained in all 6 cases. In typhoid fever 113 experiments were done, 26 of which were positive in 45 experiments in the fastidium of the disease, 9 positive in 32 toward the close of the attack (Stadium decrementi), and 8 were positive in 36 experiments during convalescence. Grafe and Röhmer believe that the hemolytic substance appears in the stools whenever there is a disturbance of fat absorption, and they consider it necessary to exclude diarrhœic and fatty stools in order to determine by this method anything in regard to the state of the intestines. They do not consider, however, their results sufficiently established to be of any diagnostic importance, but they hope to determine how much ulceration is necessary to produce the lipoid hemolytic substance.

Application of the Deviation-of-Complement Test to the Detection of Albuminous Substances in the Urine.—C. H. Wilson (*Jour. Path. and Bact.*, 1909, xiii, 484) has found that very minute quantities of albumin may be detected in the urine by means of the deviation-of-complement test. For antigen he has used the serum of rabbits which had been immunized against human blood serum. When albuminous urines were diluted to such a point that they no longer gave a reaction with heat and acetic acid or with nitric acid, they still yielded positive results by the complement-deviation test; while in many instances albumin could be detected by this method in diluted urine when it could not be demonstrated by the ordinary chemical tests. The deviating power of the urine is not affected either by filtration through a Berkefeld filter or by dialysis. The antibody of the urine was, moreover, found to reside entirely in the serum albumin and serum globulin, and after the removal of the substances from the urine the remaining fluid no longer had the property of an antibody. Wilson believes that by this method one may detect minute quantities of albumin in the urine, which cannot be demonstrated by any other means. The experiments show further that the albumin which occurs in the urine in nephritis and other conditions is native albumin, and not, as has been suggested by some observers, a proteid constitutent of the food which has passed unaltered. Most of the conclusions in regard to this so-called alimentary albuminuria have been drawn from experiments made by means of the precipitin reaction; and it was claimed by Ascoli in particular that egg albumin after ingestion could be found in the blood serum and in the urine. That albuminuria may occur after eating large quantities of raw eggs is well known, but recently Wells has shown by means of the anaphylaxis reaction that the albuminuria in such cases is due to the presence of true serum albumin. Guinea-pigs sensitized with urine from four healthy persons with experimental albuminuria, produced by eating raw eggs, and with the urine from two cases of nephritis, reacted typically and severely to subsequent injections of human ascitic fluid and not at all to egg white or egg albumin.

Recent Investigations upon Trypanosomiasis.—EHRLICH (*Arch. f. Schiff's-und. Tropen-hyg.*, 1909, xiii, 91) sums up the most recent investigations upon trypanosomiasis, which have been made in his labortory. One of the obstacles encountered in the therapeutic use of certain drugs in experimental trypanosomiasis is the gradual immunization of the parasite against the drug. By treating animals infected with trypanosomes repeatedly with certain preparations of arsenic it has been possible to obtain a variety of trypanosomes which is proof against that particular drug. This acquired property is retained through many generations, as many as 400 in one instance, and over a period of four years. The development of this arsenic-proof variety of parasite takes place, according to Ehrlich, in the following manner: The parasites contain, as do all other cells, certain chemical receptors, which Ehrlich terms chemoceptors and which have a specific affinity for the arsenic radical. By the union of these receptors with the arsenic radical the toxic effect of the drug upon the parasite is possible. By repeated injections of arsenic this receptor becomes saturated and can no longer bind the drug. Not only can arsenic-proof varieties be obtained, but a variety which is refractory to immune serum. The production of this immunity is, however, somewhat different from that just described. It has also been possible to cultivate through many generations in animals parasites which show a fairly specific resistance to other substances.